

What is claimed is:

1. A method of forming a film from a PCTFE polymer, said method comprising the steps of :
 - a) extruding molten PCTFE polymer;
 - 5 b) cooling said PCTFE polymer to a temperature below its melting point to form a film that is crystalline; and
 - c) orienting said PCTFE film while it in its crystalline state by stretching said film at a stretch ratio of at least about 1.5:1 while holding said film under tension;
- 10 wherein the resulting PCTFE film has a water vapor transmission rate of less than about 0.05 g/100 in²/day (0.775 g/m²/day).
2. The method of claim 1, wherein said film prior to orientation has a crystallinity of from about 10 to about 45%.
- 15 3. The method of claim 1, wherein said film prior to orientation has a crystallinity of from about 15 to about 35%.
4. The method of claim 1, wherein said PCFTE polymer comprises a
- 20 homopolymer.
5. The method of claim 1, wherein said PCTFE polymer comprises a copolymer.
6. The method of claim 1, wherein said film is oriented at a stretch ratio of from
- 25 about 1.5:1 to about 5:1.
7. The method of claim 1, wherein said film is oriented at a stretch ratio of from about 2:1 to about 3:1.
- 30 8. The method of claim 1, wherein said film has a water vapor transmission rate of less than about 0.03 g/100 in²/day (0.465 g/m²/day).

9. The method of claim 1, wherein said film has a water vapor transmission rate of less than about 0.015 g/100 in²/day (0.233 g/m²/day).
10. The method of claim 1, wherein said film has a water vapor transmission rate of at least less than about 20% of the water vapor transmission rate of comparable film which is unoriented.
11. The method of claim 1, wherein said film is monoaxially oriented.
12. The method of claim 1, wherein said film is biaxially oriented.
13. An oriented film produced by the method of claim 1.
14. A method of forming a film from a PCTFE polymer, said method comprising the steps of :
- a) extruding molten PCTFE polymer onto a casting roll;
 - b) cooling said PCTFE polymer to a temperature below its melting point on said casting roll to form a film that is crystalline; and
 - c) orienting said PCTFE polymer film while in its crystalline state by stretching said film between at least one relatively slow draw roll and at least one relatively fast draw roll at a stretch ratio of at least about 1.5:1 while holding said film under tension; and
 - d) collecting said oriented PCTFE polymer film;
- wherein the resulting PCTFE film has a water vapor transmission rate of less than about 0.05 g/100 in²/day (0.775 g/m²/day).
15. The method of claim 14, including the step of passing said film from said casting roll over a preheat roll prior to orienting said film.
16. The method of claim 14, wherein said casting roll is maintained at a temperature of about 50 to about 250°F (10 to 121°C).

17. The method of claim 14, wherein said casting roll is maintained at a temperature of about 75 to about 200°F (24 to 93°C).
18. The method of claim 14, wherein said draw rolls are maintained at a
5 temperature of about 75 to about 200°F (24 to 93°C).
19. The method of claim 14, wherein said draw rolls are maintained at a temperature of about 90 to about 175°F (32 to 80°C).
- 10 20. The method of claim 14, wherein said film is oriented at a stretch ratio of from about 1.5:1 to about 5:1.
21. The method of claim 14, wherein said film is oriented at a stretch ratio of from about 2:1 to about 3:1.
- 15 22. The method of claim 14, wherein said film prior to orienting has a crystallinity of from about 10 to about 45%.
23. The method of claim 14, wherein said film prior to orienting has a
20 crystallinity of from 15 to about 35%.
24. The method of claim 14, wherein said PCFTE polymer comprises a homopolymer.
- 25 25. The method of claim 14, wherein said PCTFE polymer comprises a copolymer.
26. An oriented film produced by the process of claim 14.
27. A multilayered structure including the film of claim 26.